

LhARA: 5-yr R&D programme WAG resource requirement

Work package	Comment	Institutes	Resources (WAG)				Potential/desired outputs			
			PG (SY/yr)	Std (SY/yr)	Eng (SY/yr)	Eqp (£k)	Papers	Design	Prototypes	Ind
Conceptual design report										
CDR	Simulation and performance evaluation	All	2.00	2.00	0.10		Y	Y		
Laser-driven source										
Proton-production target	Engagement with others in experimental		0.50	1.00	0.10	50.00	Y	Y	Y	?
Ion-production target			0.50	1.00	0.10	50.00	Y	Y	Y	?
Stage 1 (in vitro)										
Gabor lens	Prototypes Proof of principle Detailed design, prototype Design/simulation, ?prototype		2.00	2.00	0.50	250.00	Y	Y	Y	Y
Capture			1.00	1.00	0.50	100.00	Y	Y	Y	?
Bend			0.50	0.50	0.75		Y	Y	?	Y
Species/energy selection			0.50	0.50	0.10	5.00	Y	Y	?	?
Stage 2 (in vitro and in vivo)										
FFA	Design and simulation Detailed magnet design, ?prototype RF/cavity: design, performance validation		1.00	1.00	0.50	5.00	Y	Y	N	N
					0.50	100.00	Y	Y	?	?
				1.00	1.00	0.50	250.00	Y	Y	Y
Bend	Detailed design, prototype		0.50	0.50	0.75	100.00	Y	Y	?	Y
End stations										
Automation	Prototypes		1.00	1.00	0.30	100.00	Y	Y	Y	Y
Instrumentation										
Dosimetry	Prototypes		1.00	1.00	0.20	100.00	Y	Y	Y	?
Diagnostics	Prototypes		1.00	1.00	0.20	100.00	Y	Y	Y	?
Feedback and control	Prototypes		1.00	1.00	0.20	100.00	Y	Y	Y	?
Radiobiology										
In vivo	Engagement with others exploiting beams in UK and overseas. Exploit unique capabilities diagnostic, bio-assay, ...		2.00	2.00	0.10	100.00	Y	Y	?	?
Systems/near clinical aspects										
Real-time dose-deposition imaging			1.00	1.00	0.10	100.00	Y	Y	?	?
Real-time imaging processing and integration with feedback and control			1.00	1.00	0.10	100.00	Y	Y	Y	Y
Online cell assays			1.00	1.00	0.10	100.00	Y	Y	?	?
Totals			18.50	19.50	5.70	1710.00				
Total non-student FTE			24.20							